

B O C A G I A N A

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THE NITIDULIDAE OF THE CANARY DATE PALM, PHOENIX CANARIENSIS CHAB.

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With 2 figures

RESUMO. No presente trabalho analisa-se os efeitos do ataque de várias espécies de Nitidulídeos (Coleoptera) sobre os frutos da Palmeira das Canárias, e dá-se a distribuição geográfica destes ataques no Arquipélago Canário.

SUMMARY. In the present account the authors analyse the effects caused by several species of Nitidulidae (Coleoptera) on the fruits of the Canary Date Palms and give the geographical distribution of attacks on the Archipelago of the Canaries.

INTRODUCTION

Various visits to the islands representing the Atlantic Archipelago of the Canaries as well as the studies connected with the material collected were carried out during the years 1983 - 1986. The least investigated island was El Hierro, in view of the fact that its scarcity of palms would not have justified further research excursions.

The Canary Date Palm, *Phoenix canariensis* Chab. is one of the most representative endemic plants of the Archipelago. It is undoubtedly of great scientific interest, not only because it is the only endemic palm of these islands but also because it is very closely related to the Common

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Date Palm, *Phoenix dactylifera* L., to the point that it frequently hybridizes with it. This characteristic may open the way to investigations of the study of serious diseases of the Common Date Palm. However, this aspect is not part of the present research. Apart from our point of scientific interest this plant has a notable root in the traditional culture of the Canarians, forming part of what some authors rightly call "the culture of the palm".

Unfortunately, the groves of the Canary Date Palm, which some centuries ago covered great extensions all over the islands, have been drastically reduced and nowadays there are only traces of that former abundance. The improper and uncontrolled appliances of this plant has taken it to a critical situation, so that now it is protected by special legislation, with the intention of preserving this vegetable species. However, although the natural palm groves have practically disappeared, these plants are of ornamental beauty and their resistance to adverse conditions have caused them to be planted in parks and gardens in Spain and many other countries. The sale of them turned them into a lucrative business in Europe, while the Canaries, their original home, are almost totally excluded from this trade.

This brief account gives us an approximate idea of the importance of this plant. Due to its scientific, economic and cultural interest it is necessary to be perfectly aware of all factors (biotic or abiotic) that have a favourable or negative effect on the growth of this plant.

Our investigations have been focussed on the pests and diseases by which this plant is attacked on the Canary Islands. In this account we deal with species of the family Nitidulidae which have been found on these islands in its fruits.

RESULTS

The Nitidulidae (Insecta, Coleoptera) which we have found on *Phoenix canariensis* on the Canary Archipelago belong to the genera *Carpophylus* and *Haptoncus*. We also mention *Carpophylus dimidiatus* (F.), captured in Santa Cruz de la Palma (La Palma) by Palm (1972), in our bibliography. We ourselves have not found it during our investigations, but we included this reference because of its importance for the studies of the distribution of this species.

The species studied share the same ecological niche. They both live at the expense of the pulp of the date, causing its rapid deterioration. Their attack can take early, when the fruits start to turn yellow (ripen), but it is the ripe fruits they attack more frequently.

On the Canary Islands they are part of the biocenosis of the fruit of the Palm together with *Dactylotripes uyttemboogaarti* Eggers and *Cocotrypes dactylifera* F. (Coleoptera, Scolitidae) and other insects that appear sporadically.

The earlier the attack on the fruits takes place the greater the damage caused by these Nitidulidae is, as it obstructs or even stops the normal growth of the seeds, with the negative result of no normal reproduction of the palm taking place. To realize the importance of

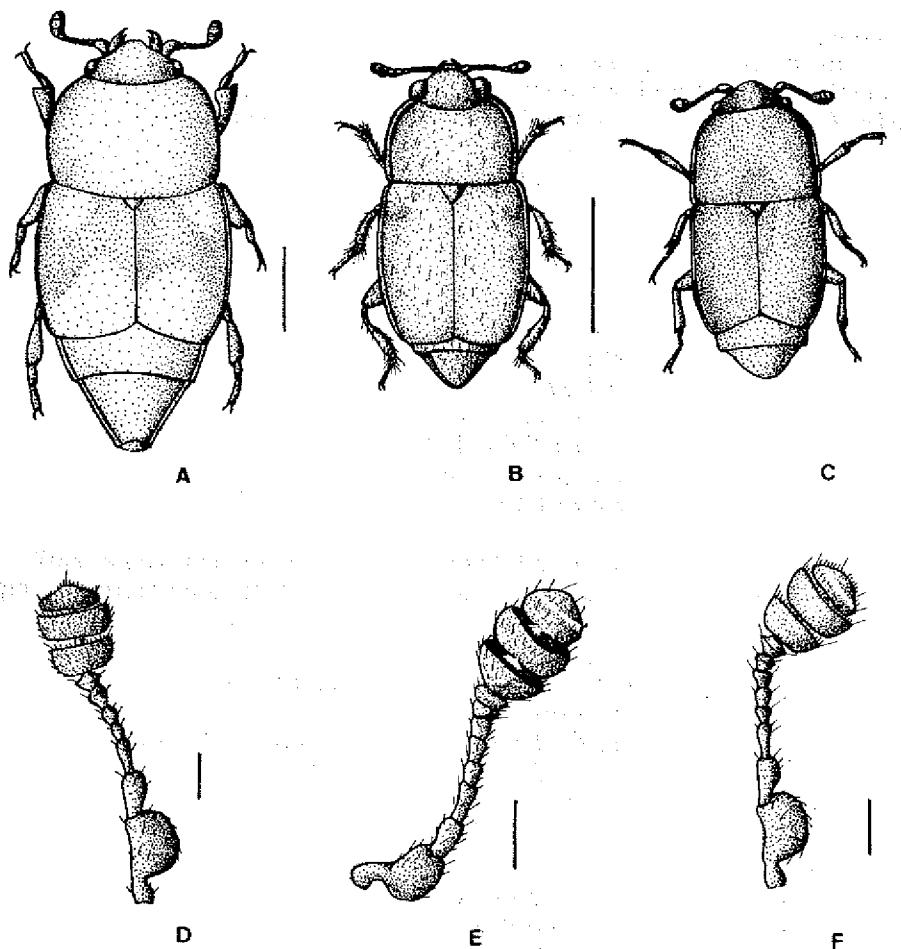


Fig. 1.— A & D: *Carpophilus hemipterus* L.; B & E: *Haptonchus luteolus* Fr.; C & F: *Carpophilus freemani* Dobson. (A-C adult, D-F antenna; scales 1 mm & 0.1 mm respectively).

the damage this causes we must take into consideration that the only manner of reproduction the Canary Palm possesses is by means of seeds; there is no alternative method of reproduction, as for instance the vegetative one, which could lessen the effect of the fruit pest. For

this reason any agent affecting the viability of the seed of this plant must be taken into consideration, because it could represent a serious danger to the survival of this endemic palm of the Canaries.

The most abundant species of the beetles under consideration is *Carpophilus hemipterus* L., *C. freemani* and *Haptoncus luteolus* being less common.

In the following list the localities where the various species of Nitidulidae were collected are given. The dates refer only to the first capture made; *C. dimidiatus* is included for the reason previously mentioned.

Carpophilus hemipterus L.

Localities :

- Bajamar (Tenerife) (30-11-83)
- Buenavista (Tenerife) (5-2-84)
- La Laguna (Tenerife) (26-10-85)
- San Sebastian (La Gomera) (25-2-85)
- Valle Gran Rey (La Gomera) (27-2-85)
- Santa Cruz de La Palma (La Palma) (27-12-83)
- Puntagorda (La Palma) (29-12-83)
- Maspalomas (Gran Canaria) (4-1-85)
- Aria (Lanzarote) (16-7-85)

Carpophilus freemani Dobson.

Localities :

- Maspalomas (Gran Canaria) (4-1-85)
- Puerto de La Cruz (Tenerife) (8-2-84)
- La Laguna (Tenerife) (7-2-83)
- Santa Cruz de La Palma (La Palma) (27-12-84)

Haptoncus luteolus Fr.

Localities :

- Puerto de La Cruz (Tenerife) (3-11-84)
- La Laguna (Tenerife) (26-10-85)
- San Sebastian (La Gomera) (25-2-85)
- Maspalomas (Gran Canaria) (4-1-85)

Carpophilus dimidiatus (F.)

Localities :

- Santa Cruz de La Palma (La Palma) (23-4-72).
Captured by Palm.

DISCUSSION

Among the three species of Nitidulidae captured *C. hemipterus* is the most important as regards overall quantity of specimens captured and number of samples containing this species. All three are part of the usual biocenosis of the fruits of Canary Date Palms, and, true enough, in comparison with other insects its importance in regard to damage it causes in the fruits is not very substantial, but if we take into account that the part affected by these insects represents the only means of dissemination this palm possesses, then we cannot take its effects lightly.

A further aspect to be kept in mind is the fact that these insects can act as vectors or facilitate the influx of pathogen agents in fruits and seeds (Lepesme, 1947). In this respect the literature cites several species of the genus *Carpophylus* as vectors of pathogen agents in various countries; among them *C. dimidiatus* F. and *C. hemipterus* L.. The former has not been found by us, whereas the latter has, frequently so, and we cannot ignore the fact that it acts as agent that introduces or facilitates the occurrence of various diseases in the fruit; this question requires a more profound and detailed study.

ACKNOWLEDGEMENT

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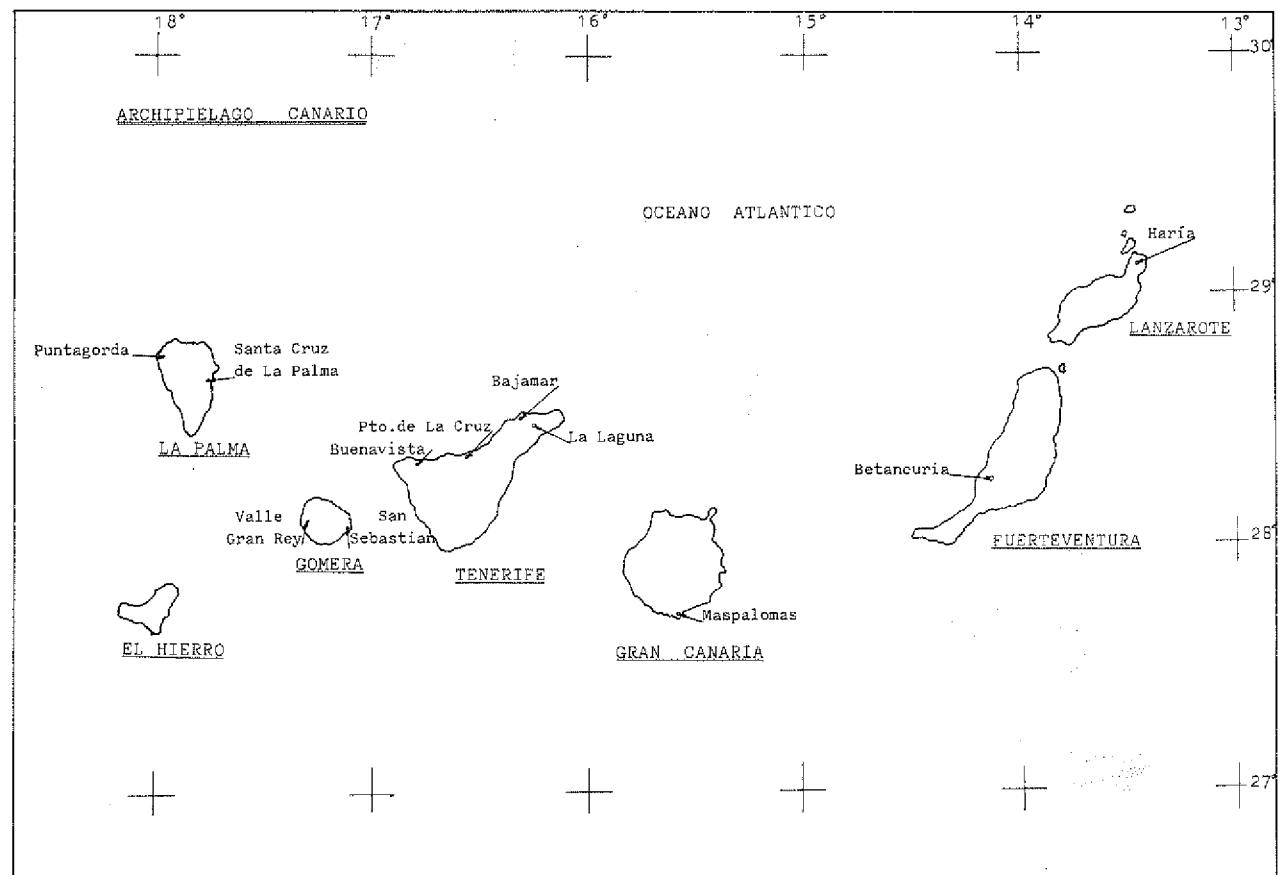


Fig. 2.— Map of Canary Archipelago with indications of collecting localities.

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NOTES ON TWO MADEIRA PLANTS

By N. C. H. KRAUSS ¹

The composite plant «Abundância» (*Eupatorium adenophorum* Spreng.) has been known in Madeira for many years. On July 24, 1962 I collected a second species of *Eupatorium*, *E. riparium* Schultz-Bip., confirmed by the Royal Botanic Garden, Kew, England. This was growing in association with *E. adenophorum* in a damp area along a path near Monte. Both these species of *Eupatorium* are native to Mexico. I have seen *E. riparium* growing along a small stream in a ravine at the Desierto de los Leones, Distrito Federal, in the hills above Mexico City. Both species are pests in grazing land in Hawaii.

On November 7, 1960 I collected specimens of *Ulex minor* Roth (determined by Royal Botanic Garden, Kew) in the grassy hills above Ribeiro Frio. Since then I have seen it also at Encumeada and Santo da Serra. *Ulex europaeus* L. has been known in Madeira for a long time, but I have not seen any records of *U. minor*.

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